random data item which has been transmitted to the first communication subscriber by a second communication subscriber in the communications network;

transmitting the first fault information to the second communication subscriber by the first communication subscriber,

forming a second fault information item in the second communication subscriber using a fault detection data item of the second communication subscriber and the information item relating to the random data item;

checking the authenticity of the first communication subscriber in the second communication subscriber using the first fault information item and the second fault information item.

13. (NEW) The method as claimed in claim 12, wherein a difference is determined between the fault detection data item of the first communication subscriber and the fault detection data item of the second communication subscriber.

14. (NEW) The method as claimed in claim 13, wherein the difference is limited.

15. (NEW) The method as claimed in claim 12, wherein the first and second communication subscribers are part of a mobile phone system.

16. (NEW) The method as claimed in claim 13, wherein the first and second communication subscribers are part of a mobile phone system.

17. (NEW) The method as claimed in claim 14, wherein the first and second communication subscribers are part of a mobile phone system.

18. (NEW) A system for checking authenticity in a communications network, comprising:

a first communication subscriber to form a first fault information using a fault detection data item of the first communication subscriber and an information item relating to a random data item which has been transmitted to the first communication subscriber, and to transmit the first fault information;

a second communication subscriber to transmit the information relating to the random data item to the first communication subscriber, to receive the first fault information

from the first communication subscriber, to form a second fault information using a fault detection data item of the second communication subscriber and the information relating to the random data item, and to check the authenticity of the first communication subscriber using the first fault information and the second fault information.

19. (NEW) The system as claimed in claim 18, wherein the first communication subscriber is a service provider and the second communication subscriber is a service user in the communications network.

20. (NEW) The system as claimed in claim 19, wherein the service provider is a mobile phone operator and the service user is a mobile phone.

21. (NEW) The system as claimed in claim 18, wherein the fault detection data items are sequential numbers.

22 . (NEW) The system as claimed in claim 21, wherein the information relating to the random data item is a random number.

23 . (NEW) The system as claimed in claim 18, wherein the first and second communication subscribers are part of a mobile phone system.

24. (NEW) The system as claimed in claim 21, wherein the first communication subscriber is a service provider and the second communication subscriber is a service user in the communications network.

25. (NEW) The system as claimed in claim 24, wherein the service provider is a mobile phone operator and the service user is a mobile phone.

26. (NEW) The system as claimed in claim 22, wherein the first communication subscriber is a service provider and the second communication subscriber is a service user in the communications network.

27. (NEW) The system as claimed in claim 26, wherein the service provider is a mobile phone operator and the service user is a mobile phone.

28. (NEW) The system as claimed in claim 19, wherein the fault detection data items are sequential numbers.

29. (NEW) The system as claimed in claim 28, wherein the information relating to the random data item is a random number.

30. (NEW) The system as claimed in claim 29, wherein the service provider is a mobile phone operator and the service user is a mobile phone.